

TREATED FILTER MEDIA AND FRAME
Application No. 10/669,963
Atty.Dkt.: ZM921-05028

REMARKS

Reconsideration of the above referenced application is respectfully requested. Claims 1, 3 and 8-9 are currently pending in the above referenced application. Claims 2 and 4-7 have been cancelled. On March 14, 2005, Applicant's Attorney conducted a telephonic interview with Examiner Popovics. Applicant's Attorney and Examiner Popovics discussed the differences between the claimed invention and the prior art, specifically the synergistic effects or unexpected results of the instant invention compared to the devices of the prior art. Examiner Popovics suggested that Applicant submit probative data supporting the synergistic effects.

35 U.S.C. §103 REJECTION OF CLAIMS 1,3 and 7-9

The Examiner has rejected claims 1-3 and 7 under 35 USC §103(a) as being unpatentable over Perry's Chemical Handbook or Griswold (US 2,855,330) or Lunde (US 2,784,801) or other prior art in view of Stringer (US 3,853,501). Applicant respectfully traverses the Examiner on this ground of rejection.

The instant invention is directed toward a filter medium for removing particulates from a fluid stream which comprises a porous fiber filter medium and an adhesive coating therefore. The adhesive coating comprises a major portion by weight of mineral oil and a minor portion by weight of a thickener. As amended, Applicant currently claims a filter medium having an adhesive in a specific viscosity range.

The Examiner alleges that Perry, Griswold, and Lunde teach the use of mineral oil as an impingement oil coating. However, Examiner admits that none of these references teach or remotely suggest the use of a thickener and particularly a silica thickener in combination with a mineral oil on a porous fibrous filter medium. Yet, Examiner alleges that Stringer discloses the use of silica (e.g. glass, quartz, sand) as a substrate for mineral oil.

TREATED FILTER MEDIA AND FRAME
Application No. 10/669963
Atty.Dkt.: 2M921-05028

Stringer teaches the use of solid granular particles such as sand, bauxite, synthetic silica-alumina materials, such as cracking catalyst, ground glass, crushed quartz, precipitated silicates, and the like having specific particle size as water filtration media in a liquid filtration bed. Citing Stringer as a prior art reference is misplaced since it has no relation to the filtration of gases or air, nor does it remotely suggest the use of a thickener of any kind as Examiner admits.

Even if Stringer discloses the use of silica (e.g. glass, quartz, sand) as a substrate, it cannot be inferred therefrom that the use of a silica material as a thickener of oil obtaining an adhesive coating is taught or remotely suggested. Claim 1 has been amended and Applicant currently claims "the preselected thickener being a silica material". A person having ordinary skill in the art knows that a silica material used as a thickener in oil must be miscible in the oil and that glass, quartz, sand, or any solid silica material having a particular particle size used in a substrate or water filtration bed, as taught in Stringer, will not act as a thickener in an oil. Hence, Stringer does not remotely suggest the use of a silica material as a thickener in oil.

Support for the current amendment is in the Application is as follows:

The thickener of the minor portion can be chosen from the group consisting of silica, treated clay, inorganic powder or a polymeric material or a preselected mixture by weight of the same, with the mixture having a viscosity in the range of 0.5-500 poise, advantageously at approximately 12.5 poise, and *advantageously can be a silica material*. App., para. 16.

As discussed during our telephonic interview, the unique combination of having a silica thickener with a mineral oil adhesive demonstrates unexpected results or shows a synergistic effect. This synergistic effect is summarized in the specification as follows:

a new and useful fibrous filter media coating is provided which greatly improves filtration efficiency of certain particle sizes, which is comparatively inexpensive to make, install and use in a straightforward manner, which has a high system performance efficiency and integrity and, which minimizes liberation of respiratory irritating gases-- App. 20040055943, para. 5

TREATED FILTER MEDIA AND FRAME
 Application No. 10/669,963
 Atty.Dkt.: ZM921-05028

low static pressure drop, App. 20040055943, para 16

Specifically, the increased efficiency is shown in Fig. 4 and discussed the specification as follows:

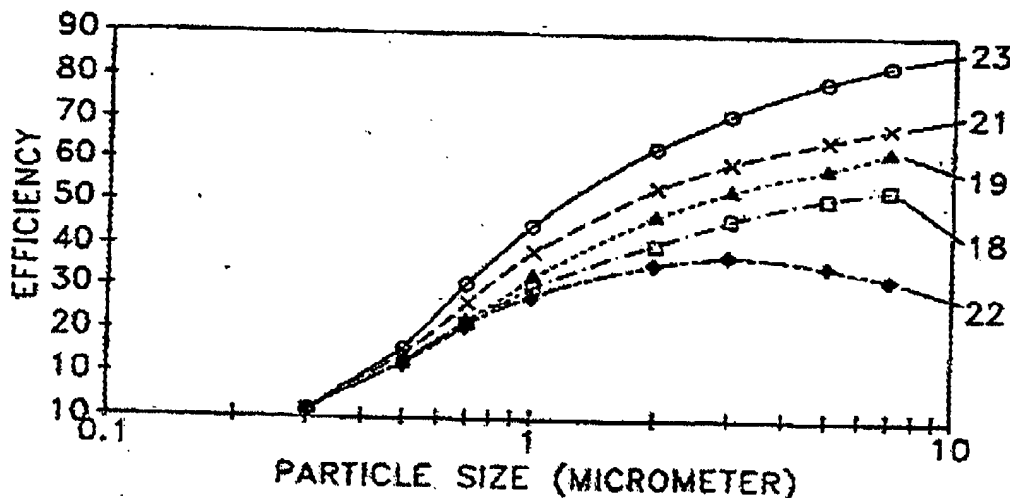


FIG. 4

Referring to the representative efficiency graph in FIG. 4 of the drawings, curves are shown, which plot and compare the relative efficiencies of five (5) identical filter media. Three (3) of the curves represent identical media which were treated, as above described, separately with three commercially available different adhesives, namely a commercial adhesive known as chlorinated paraffin and designated by the rectangular mark and reference numeral 18, a commercial adhesive known as polybutene and designated by the triangular mark and reference numeral 19, and, a commercial adhesive known as petroleum hydrocarbon and designated by the cross mark and reference numeral 21. A fourth curve designated by the diamond mark and reference numeral 22 represents an identical filter media which was untreated and which does, in fact, show the lowest efficiency. The fifth curve designated by the circular mark and reference numeral 23 shows the highest efficiency of all. It was treated by an inventive adhesive of a mixture of ninety-five (95) percent by weight of soybean oil and five (5) percent by weight of silica. Although not demonstrated by graphs for other oils in the inventive group of oils and oil thickeners, similar efficiency results to that of the representative efficiency graph would be obtained. App. 20040055943, para. 16.

TREATED FILTER MEDIA AND FRAME
Application No. 10/669,963
Att. Dkt.: 2M921-05028

Since none of the cited references teach or remotely suggest the use of an adhesive having a viscosity in the range of 0.5 to 500 poise and being comprised of mineral oil and a silica material, Applicant's Attorney respectfully requests this ground of rejection removed.

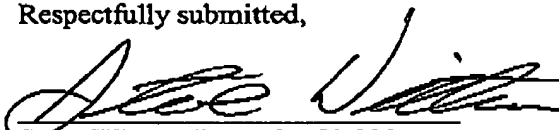
Regarding claims 8 and 9, these claims depend from claim 1 and hence have the limitations of claim 1. Since the limitations of claim 1 have been distinguished over the cited art and is in an allowable condition, Applicant's Attorney respectfully request that these rejections be removed as well.

CONCLUSION

Applicant's Attorney believes that the instant application is now in condition for allowance and therefore respectfully requests that the Examiner withdraw the pending rejections. However, if the Examiner believes there are other unresolved issues in this case, Applicant's Attorney of record would appreciate a call at (502) 584-1135 to discuss such remaining issues.

Respectfully submitted,

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